Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP

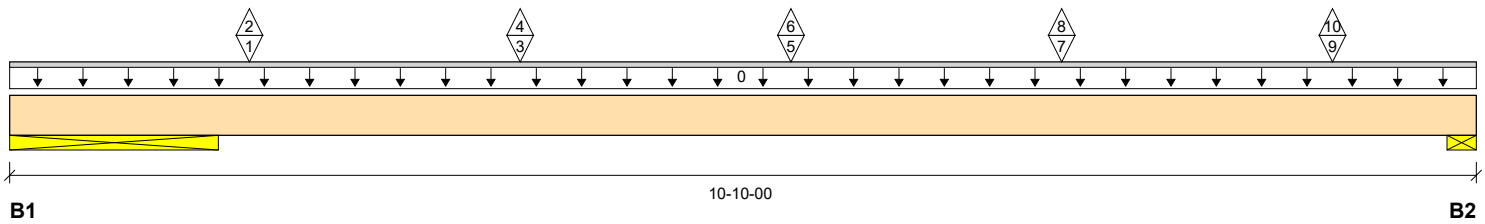
PASSED

Roof\Dropped Beams\GDH(i78) (Dropped Beam)

BC Design Engine Member Report | Dry | 1 span | No cant. | February 21, 2022 11:38:00

Build 8132

Job name:		File name:	Travis_SC_3593.mmdl
Address:		Description:	Roof\Dropped Beams\GDH(i78)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	



Total Horizontal Product Length = 10-10-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 18-1/2"	1438 / 0	2105 / 0		652 / 773	1669 / 131
B2, 3-1/2"	1236 / 0	1806 / 0		394 / 785	1500 / 119

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	10-10-00	Top		9				00-00-00
1	C(c2)	Conc. Pt. (lbs)	L	01-09-04	01-09-04	Top	542	778			628	n\a
2	C(c2)	Conc. Pt. (lbs)	L	01-09-04	01-09-04	Top					-47	n\a
3	C(c1)	Conc. Pt. (lbs)	L	03-09-04	03-09-04	Top	533	778			630	n\a
4	C(c1)	Conc. Pt. (lbs)	L	03-09-04	03-09-04	Top					-47	n\a
5	C1(c1)	Conc. Pt. (lbs)	L	05-09-04	05-09-04	Top	533	723			579	n\a
6	C1(c1)	Conc. Pt. (lbs)	L	05-09-04	05-09-04	Top					-47	n\a
7	C1(c2)	Conc. Pt. (lbs)	L	07-09-04	07-09-04	Top	533	752			643	n\a
8	C1(c2)	Conc. Pt. (lbs)	L	07-09-04	07-09-04	Top					-62	n\a
9	C1(c3)	Conc. Pt. (lbs)	L	09-09-04	09-09-04	Top	533	778			689	n\a
10	C1(c3)	Conc. Pt. (lbs)	L	09-09-04	09-09-04	Top					-47	n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	8480 ft-lbs	52.1%	125%	4	05-09-04
End Shear	3848 lbs	50.0%	125%	4	09-09-04
Total Load Deflection	L/392 (0.279")	61.2%	n\a	42	06-01-00
Live Load Deflection	L/684 (0.16")	52.7%	n\a	227	06-01-00
Max Defl.	0.279"	27.9%	n\a	42	06-01-00
Span / Depth	11.8				

Bearing Supports

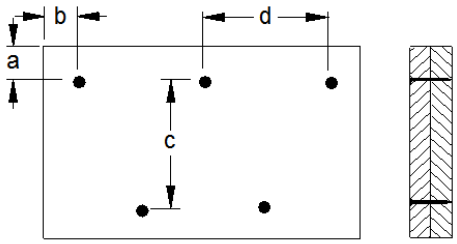
		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	18-1/2" x 3-1/2"	4729 lbs	10.1%	9.7%	Unspecified
B2	Wall/Plate	3-1/2" x 3-1/2"	4035 lbs	45.4%	43.9%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
BC CALC® analysis is based on IBC 2012.
Wind loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Calculations assume unbraced length of Top: 01-10-08, Bottom: 10-10-00.

Job name:		File name:	Travis_SC_3593.mmdl
Address:		Description:	Roof\Dropped Beams\GDH(i78)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP

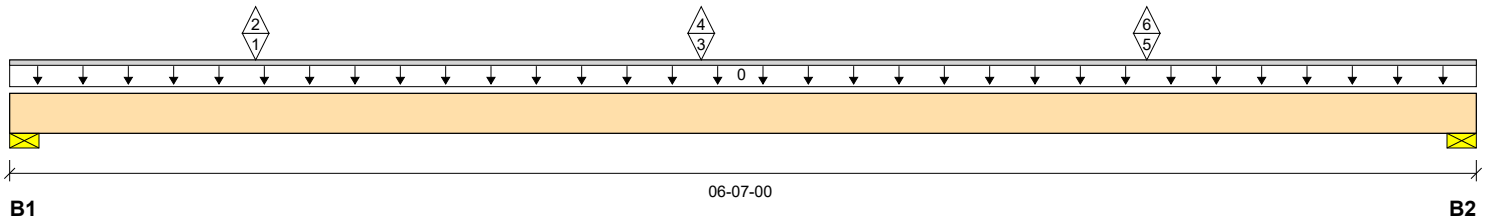
PASSED

Roof\Dropped Beams\HDR1(i77) (Dropped Beam)

BC Design Engine Member Report — Dry | 1 span | No cant. — February 21, 2022 11:38:00

Build 8132

Job name:		File name:	Travis_SC_3593.mmdl
Address:		Description:	Roof\Dropped Beams\HDR1(i77)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	



Total Horizontal Product Length = 06-07-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"	848 / 0	1234 / 0		263 / 683	1032 / 84
B2, 3-1/2"	751 / 0	1172 / 0		277 / 766	1067 / 75

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-07-00	Top		9				00-00-00
1	C1(c6)	Conc. Pt. (lbs)	L	01-01-04	01-01-04	Top	533	763			659	n\a
2	C1(c6)	Conc. Pt. (lbs)	L	01-01-04	01-01-04	Top					-47	n\a
3	C1(c7)	Conc. Pt. (lbs)	L	03-01-04	03-01-04	Top	533	693			530	n\a
4	C1(c7)	Conc. Pt. (lbs)	L	03-01-04	03-01-04	Top					-65	n\a
5	C1(c8)	Conc. Pt. (lbs)	L	05-01-04	05-01-04	Top	533	888			910	n\a
6	C1(c8)	Conc. Pt. (lbs)	L	05-01-04	05-01-04	Top					-47	n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	4243 ft-lbs	26.0%	125%	4	03-01-04
End Shear	2634 lbs	34.3%	125%	4	01-00-12
Total Load Deflection	L/999 (0.062")	n\a	n\a	44	03-03-08
Live Load Deflection	L/999 (0.035")	n\a	n\a	219	03-03-08
Max Defl.	0.062"	n\a	n\a	44	03-03-08
Span / Depth	7.9				

Bearing Supports

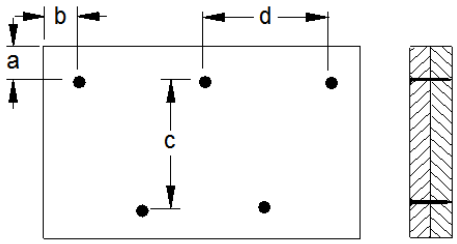
		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Wall/Plate	3-1/2" x 3-1/2"	2762 lbs	31.1%	30.1%	Unspecified
B2	Wall/Plate	3-1/2" x 3-1/2"	2660 lbs	29.9%	29.0%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
BC CALC® analysis is based on IBC 2012.
Wind loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Calculations assume unbraced length of Top: 01-10-08, Bottom: 06-07-00.

Job name:		File name:	Travis_SC_3593.mmdl
Address:		Description:	Roof\Dropped Beams\HDR1(i77)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP

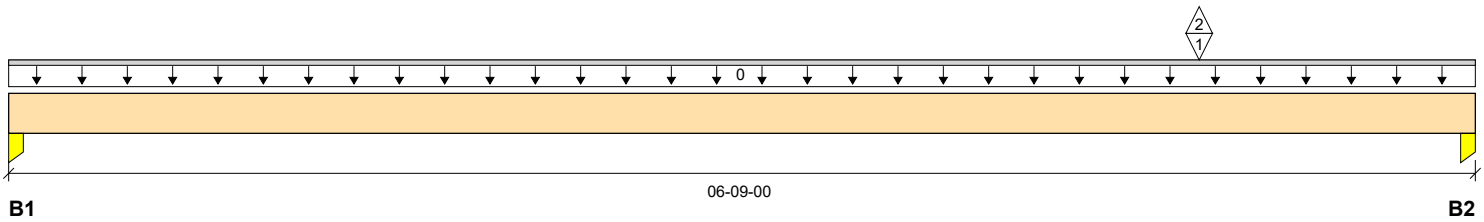
PASSED

Roof\Dropped Beams\HDR2(i74) (Dropped Beam)

BC Design Engine Member Report | Dry | 1 span | No cant. | February 21, 2022 11:38:00

Build 8132

Job name:		File name:	Travis_SC_3593.mmdl
Address:		Description:	Roof\Dropped Beams\HDR2(i74)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	



Total Horizontal Product Length = 06-09-00

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead	Snow	Wind	Roof Live
B1, 3-1/2"		668 / 0		171 / 313	634 / 15
B2, 5-1/2"		3850 / 0		1024 / 1873	3803 / 91

Load Summary

Tag	Description	Load Type	Ref.	Start	End	Loc.	Live 100%	Dead 90%	Snow 115%	Wind 160%	Roof Live 125%	Tributary
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	06-09-00	Top		9				00-00-00
1	BGR(c1)	Conc. Pt. (lbs)	L	05-05-12	05-05-12	Top		4454			4437	n\a
2	BGR(c1)	Conc. Pt. (lbs)	L	05-05-12	05-05-12	Top					-106	n\a

Controls Summary

	Value	% Allowable	Duration	Case	Location
Pos. Moment	6694 ft-lbs	42.9%	125%	1	05-05-12
End Shear	7641 lbs	99.4%	125%	1	05-06-04
Total Load Deflection	L/999 (0.069")	n\a	n\a	1	03-09-01
Live Load Deflection	L/999 (0.034")	n\a	n\a	131	03-09-01
Max Defl.	0.069"	n\a	n\a	1	03-09-01
Span / Depth	7.9				

Bearing Supports

		Dim. (LxW)	Value	% Allow Support	% Allow Member	Material
B1	Column	3-1/2" x 3-1/2"	1302 lbs	14.7%	14.2%	Unspecified
B2	Column	5-1/2" x 3-1/2"	7652 lbs	54.8%	53.0%	Unspecified

Notes

Design meets Code minimum (L/240) Total load deflection criteria.
Design meets Code minimum (L/360) Live load deflection criteria.
Design meets arbitrary (1") Maximum Total load deflection criteria.
Design meets arbitrary (0.75") Maximum live load deflection criteria.
BC CALC® analysis is based on IBC 2012.
Wind loads determined from building geometry were used in selected product's verification.
Design based on Dry Service Condition.
Calculations assume unbraced length of Top: 05-03-08, Bottom: 06-09-00.

Double 1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP

PASSED

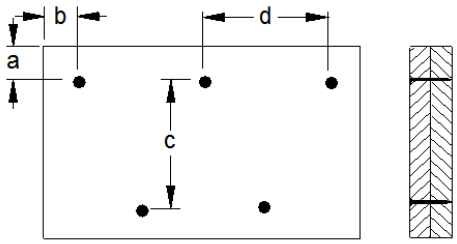
Roof\Dropped Beams\HDR2(i74) (Dropped Beam)

BC Design Engine Member Report — Dry | 1 span | No cant. — February 21, 2022 11:38:00

Build 8132

Job name:		File name:	Travis_SC_3593.mmdl
Address:		Description:	Roof\Dropped Beams\HDR2(i74)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	

Connection Diagram: Full Length of Member



a minimum = 2" c = 5-1/4"
b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft
Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™, ALLJOIST® , BC RIM BOARD™, BCI® , BOISE GLULAM™, BC FloorValue® , VERSA-LAM®, VERSA-RIM PLUS® ,